**Lower Passaic River RI/FS**
**Response to 11/13/2015 Question Regarding Generation of Bioaccumulation Model Input Files**

**EPA Question:** "We have been able to reproduce the CPG's linkage files in general, but there are some small differences remaining. We also had some trouble compiling the code get_cwcm_waterdepth_v2 .f without making minor edits. Could you send the Fortran compiler version and flags used to compile the codes sent on 10/21? Could you also confirm if a program was used to generate the annual gcm_tran files used by the linkage programs, or were the individual files that make up a given year simply concatenated?"

**Response:**

The code was compiled using the *Intel Visual Fortran Compiler 9.1 for Windows*, using the following command line syntax:
*ifort /extend-source:132 /O2 /convert:big_endian /align /Qsave get_cwcm_waterdepth_v2.f*

The steps to process the *gcm_tran* hydro coupling files are outlined in the instructions provided in the October 2015 transmittal, under "Step B" (*!BioModel-Input-prep_20151015.docx*; see excerpt below). Step B-1 uses a concatenated annual hydro coupling file, while Step B-2 uses un-concatenated hydro coupling files (i.e., for individual time chunks) and the associated *gcm_geom* geometry files. Concatenation was performed with water year specific batch files, which were provided in the CONCATENATION\hydro folder of the October 2015 transmittal. For example, for WY1011: CONCATENATION\Hydro\1011\run_gcm_tran_concat_1011.bat.

The above clarifications have been added to the processing instructions; see the attached file *!BioModel-Input-prep_20151113.docx*. Please note that small differences in the processed output may persist due to differences in the computational platforms, even if the same compiler and batch files are used.

**Excerpt from *!BioModel-Input-prep_20151015.docx* in the October 2015 File Transmittal:**

B. Generate annual water temperature and water depth from hydro coupling and geometry files for each year
   1. Run Fortran program **read_gcmtran.f** to extract temperature using concatenated annual hydro coupling files (gcm_tran) and save the values as text files.
   2. Run Fortran program **get_cwcm_waterdepth_v2.f** to extract water depth using hydro coupling and geometry files (gcm_geom) for each time chuck
   3. Run IDL program **pascpg_concatenate_waterdepth_chunks.pro** to concatenate water depth outputs of each individual time chunk from Step B-2 into annual text files.
   4. Run IDL program **foodchain_waterdepth_txts_compute_daily.pro** using outputs from Step B-3 to compute daily-averaged water depths.